

WHAT IS CLAIMED IS:

- 1 1. An isolated polynucleotide encoding a protein less than about 300
2 amino acids comprising a sequence selected from the group consisting of:
 - 3 (a) sequence provided in SEQ ID NO:9600;
 - 4 (b) complements of the sequence provided in SEQ ID NO:9600;
 - 5 (c) sequences having at least 90% identity to a sequence of SEQ ID
6 NO:9600; and
 - 7 (d) degenerate variants of a sequence provided in SEQ ID NO:9600.
- 1 2. An isolated polypeptide comprising an amino acid sequence selected
2 from the group consisting of:
 - 3 (a) sequences encoded by a polynucleotide of claim 1; and
 - 4 (b) sequences having at least 90% identity to a sequence encoded by a
5 polynucleotide of claim 1; and
 - 6 (c) sequences provided in SEQ ID NO:9613-9617; and
 - 7 (d) sequences provided in SEQ ID NO:9618-10437; and
 - 8 (e) sequences provided in SEQ ID NO:10438-10458.
- 1 3. An expression vector comprising a polynucleotide of claim 1 operably
2 linked to an expression control sequence.
- 1 4. A host cell transformed or transfected with an expression vector
2 according to claim 3.
- 1 5. An isolated antibody, or antigen-binding fragment thereof, that
2 specifically binds to a polypeptide of claim 2.
- 1 6. A method for detecting the presence of a cancer in a patient,
2 comprising the steps of:
 - 3 (a) obtaining a biological sample from the patient;
 - 4 (b) contacting the biological sample with a binding agent that binds to a
5 polypeptide of claim 2;
 - 6 (c) detecting in the sample an amount of polypeptide that binds to the
7 binding agent; and
 - 8 (d) comparing the amount of polypeptide to a predetermined cut-off value
9 and therefrom determining the presence of a cancer in the patient.

- 1 7. A fusion protein comprising at least one polypeptide according to
2 claim 2.
- 1 8. An oligonucleotide that hybridizes to nucleotides 1-630 of the
2 sequence recited in SEQ ID NO:9600 under moderately stringent conditions.
- 1 9. A method for stimulating and/or expanding T cells specific for a tumor
2 protein, comprising contacting T cells with at least one component selected from the group
3 consisting of:
4 (a) polypeptides according to claim 2;
5 (b) polynucleotides according to claim 1; and
6 (c) antigen-presenting cells that express a polypeptide according to claim
7 1,
8 under conditions and for a time sufficient to permit the stimulation and/or expansion of T
9 cells.
- 1 10. An isolated T cell population, comprising T cells prepared according to
2 the method of claim 9.
- 1 11. A composition comprising a first component selected from the group
2 consisting of physiologically acceptable carriers and immunostimulants, and a second
3 component selected from the group consisting of:
4 (a) polypeptides according to claim 2;
5 (b) polynucleotides according to claim 1;
6 (c) antibodies according to claim 5;
7 (d) fusion proteins according to claim 7;
8 (e) T cell populations according to claim 10; and
9 antigen presenting cells that express a polypeptide according to claim 2.
- 1 12. A method for stimulating an immune response in a patient, comprising
2 administering to the patient a composition of claim 11.
- 1 13. A method for the treatment of a cancer in a patient, comprising
2 administering to the patient a composition of claim 11.

- 1 14. A method for determining the presence of a cancer in a patient,
2 comprising the steps of:
- 3 (a) obtaining a biological sample from the patient;
4 (b) contacting the biological sample with an oligonucleotide according to
5 claim 8;
6 (c) detecting in the sample an amount of a polynucleotide that hybridizes
7 to the oligonucleotide; and
8 (d) comparing the amount of polynucleotide that hybridizes to the
9 oligonucleotide to a predetermined cut-off value, and therefrom
10 determining the presence of the cancer in the patient.
- 1 15. A diagnostic kit comprising at least one oligonucleotide according to
2 claim 8.
- 1 16. A diagnostic kit comprising at least one antibody according to claim 5
2 and a detection reagent, wherein the detection reagent comprises a reporter group.
- 1 17. A method for inhibiting the development of a cancer in a patient,
2 comprising the steps of:
- 3 (a) incubating CD4+ and/or CD8+ T cells isolated from a patient with at
4 least one component selected from the group consisting of: (i)
5 polypeptides according to claim 2; (ii) polynucleotides according to
6 claim 1; and (iii) antigen presenting cells that express a polypeptide of
7 claim 2, such that T cell proliferate;
8 (b) administering to the patient an effective amount of the proliferated T
9 cells,
10 and thereby inhibiting the development of a cancer in the patient.
- 1 18. An isolated polynucleotide encoding a protein of less than 300 amino
2 acids comprising a sequence selected from the group consisting of:
- 3 (a) sequence provided in SEQ ID NO:9603;
4 (b) complements of the sequences provided in SEQ ID NO:9603;
5 (c) sequences having at least 90% identity to a sequence of SEQ ID
6 NO:9603; and
7 (d) degenerate variants of a sequence provided in SEQ ID NO:9603.

1 19. An isolated polypeptide comprising an amino acid sequence selected
2 from the group consisting of:

- 3 (a) sequences encoded by a polynucleotide of claim 18; and
- 4 (b) sequences having at least 90% identity to a sequence encoded by a
- 5 polynucleotide of claim 18; and
- 6 (c) the sequence provided in SEQ ID NO:10466.

1 20. An expression vector comprising a polynucleotide of claim 18
2 operably linked to an expression control sequence.

1 21. A host cell transformed or transfected with an expression vector
2 according to claim 20.

1 22. An isolated antibody, or antigen-binding fragment thereof, that
2 specifically binds to a polypeptide of claim 19.

1 23. A method for detecting the presence of a cancer in a patient,
2 comprising the steps of:

- 3 (a) obtaining a biological sample from the patient;
- 4 (b) contacting the biological sample with a binding agent that binds to a
- 5 polypeptide of claim 19;
- 6 (c) detecting in the sample an amount of polypeptide that binds to the
- 7 binding agent; and
- 8 (d) comparing the amount of polypeptide to a predetermined cut-off value
- 9 and therefrom determining the presence of a cancer in the patient.

1 24. A fusion protein comprising at least one polypeptide according to
2 claim 19.

1 25. A method for stimulating and/or expanding T cells specific for a tumor
2 protein, comprising contacting T cells with at least one component selected from the group
3 consisting of:

- 4 (a) polypeptides according to claim 19;
- 5 (b) polynucleotides according to claim 18; and
- 6 (c) antigen-presenting cells that express a polypeptide encoded by a

7 polynucleotide according to claim 18,
8 under conditions and for a time sufficient to permit the stimulation and/or expansion of T
9 cells.

1 26. An isolated T cell population, comprising T cells prepared according to
2 the method of claim 26.

1 27. A composition comprising a first component selected from the group
2 consisting of physiologically acceptable carriers and immunostimulants, and a second
3 component selected from the group consisting of:

- 4 (a) polypeptides according to claim 19;
- 5 (b) polynucleotides according to claim 18;
- 6 (c) antibodies according to claim 22;
- 7 (d) fusion proteins according to claim 24;
- 8 (e) T cell populations according to claim 27; and
- 9 antigen presenting cells that express a polypeptide according to claim 19.

1 28. A method for stimulating an immune response in a patient, comprising
2 administering to the patient a composition of claim 28.

1 29. A method for the treatment of a cancer in a patient, comprising
2 administering to the patient a composition of claim 28.

1 30. A diagnostic kit comprising at least one oligonucleotide according to
2 claim 25.

1 31. A diagnostic kit comprising at least one antibody according to claim 22
2 and a detection reagent, wherein the detection reagent comprises a reporter group.

1 32. A method for inhibiting the development of a cancer in a patient,
2 comprising the steps of:

- 3 (a) incubating CD4+ and/or CD8+ T cells isolated from a patient with at
4 least one component selected from the group consisting of: (i)
5 polypeptides according to claim 19; (ii) polynucleotides according to
6 claim 18; and (iii) antigen presenting cells that express a polypeptide
7 of claim 19, such that T cell proliferate;

8 (b) administering to the patient an effective amount of the proliferated T
9 cells,
10 and thereby inhibiting the development of a cancer in the patient.